Hatchery Update

Carson National Fish Hatchery

Introduction

The U.S. Fish and Wildlife Service (USFWS) operates 12 National Fish Hatcheries (NFH), one Fish Health Center, and one Fish Technology Center in the Columbia River basin. The Columbia River Fisheries Program Office (CRFPO) works with 6 of these facilities to help evaluate release programs and conduct special studies. The CRFPO maintains the Service's hatchery database as well.

About Carson National Fish Hatchery

The hatchery is located 13 miles northwest of Carson, in Skamania County, Washington. It is situated at the confluence of the Wind River and Tyee Springs. The facility began producing fall Chinook salmon and resident trout in 1938. Early attempts to introduce spring Chinook salmon into the Wind River between 1938 and 1940 met with little success. At that time, salmon could not return to the hatchery due to impassable Shipherd Falls, two miles upstream from the mouth of the Wind River. The hatchery was remodeled in 1956 under the Mitchell Act in order to establish a run of spring Chinook salmon in the Wind River. At that time, a fish ladder was built at Shipherd Falls to allow salmon passage. Spring Chinook salmon production began to take precedence over other production until 1976, when the last fall Chinook salmon were released into the Wind River. Carson NFH currently produces spring Chinook salmon exclusively. Funding for the hatchery is through Mitchell Act funds, which are administered by NOAA Fisheries.

Rearing facilities at Carson NFH include 46 raceways, two earthen rearing ponds, and two adult holding ponds. The main water source for the hatchery is Tyee Springs.

Hatchery Goal

Today the U.S. Fish and Wildlife Service operates Carson National Fish Hatchery to restore and maintain spring Chinook salmon upstream of Bonneville Dam. This stock provides a popular sport and tribal fishery in the Wind River.

Hatchery Assessment

All hatcheries must consider their potential for adversely affecting the aquatic community. Wild steelhead in the Wind River are part of the Lower Columbia River population listed as threatened under the Endangered Species Act (ESA). To help us assess our impacts, we revised our Draft Hatchery and Genetic Management Plans for National Fish Hatcheries in the lower Columbia River, including Carson in 2004. These management plans are written to assess our program and meet ESA requirements. In addition to completing documentation to comply with our ESA responsibilities, we must also meet our mitigation responsibilities under the Mitchell Act as well as meet Tribal Trust and U.S. v Oregon obligations. In order to balance these sometimes conflicting mandates, we regularly meet with our co-managers to discuss operation and management of the hatchery. More research is needed to assess the impacts of both hatchery releases and natural spawning Chinook on steelhead in the Wind River. To help guide hatchery operations in the Wind River, we have also completed a Comprehensive Hatchery Management Plan in 2002.

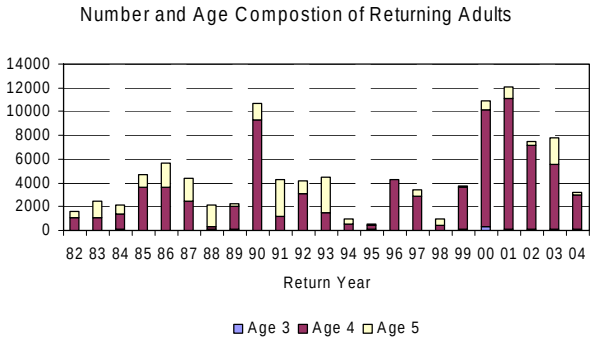
Adult Escapement Goal

A return of 1,200 adult salmon is needed to collect enough eggs for a full production of 1.42 million fish for onstation release.

Sampling of Returning Fish

A proportion of returning adults are sampled at the hatchery for biological information. Sex and length are recorded and scales are collected so that age can be determined. Fish are also sampled for coded-wire tags implanted in the snouts of fish during juvenile rearing. By using sample information and the number of returning fish, it is possible to calculate the number of returning fish for each age group and, consequently, the number of fish returning from each brood year or release year. On average, since 1982, 1% of Carson's spring chinook have returned as three year old male jacks, 75% as four year old adults, and 24% as five year old adults.

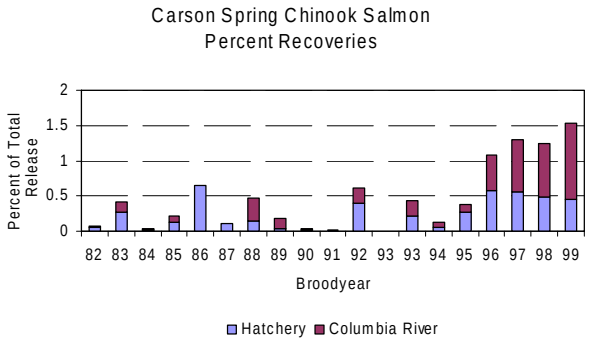
The number of fish returning from a hatchery release is influenced by early rearing at the hatchery, downstream migration, ocean conditions, and the harvest rate in the various fisheries.



Contribution

The coded-wire tag marking program makes it possible to determine total survival rates and contribution to several fisheries. Since broodyear 1982, an average of 52% of adults return to the hatchery while remaining recoveries of Carson spring Chinook salmon occur almost exclusively in the Columbia River and the Wind River. The majority of these fish are harvested in the freshwater sport fishery, followed by tribal treaty and subsistence fishery, and Columbia River gill net fishery.

Survival for the Carson NFH spring Chinook averages 0.46% of the total number of fish released for the brood years 1982 through 1999. Total survival for broodyear 1999 was 1.5%.



New Assistant Manager

Brett Galyean joined the Carson National Fish Hatchery in May of 2005. Previously he was the Assistant Hatchery Manager for the Winthrop National Fish Hatchery, and before that a Fishery Biologist for the Leavenworth National Fish Hatchery Complex. Brett joined U.S. Fish and Wildlife Service in June of 2000 through the Student Career Experience Program (S.C.E.P.). Brett has a B.S. in Fisheries Biology from Humboldt State University.

AutoFish System

The AutoFish System was implemented at Carson NFH for the first time this year. The System can perform any combination of: sorting, adipose fin clipping, CWT fish tag injection without the use of anesthetic or human handling.

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